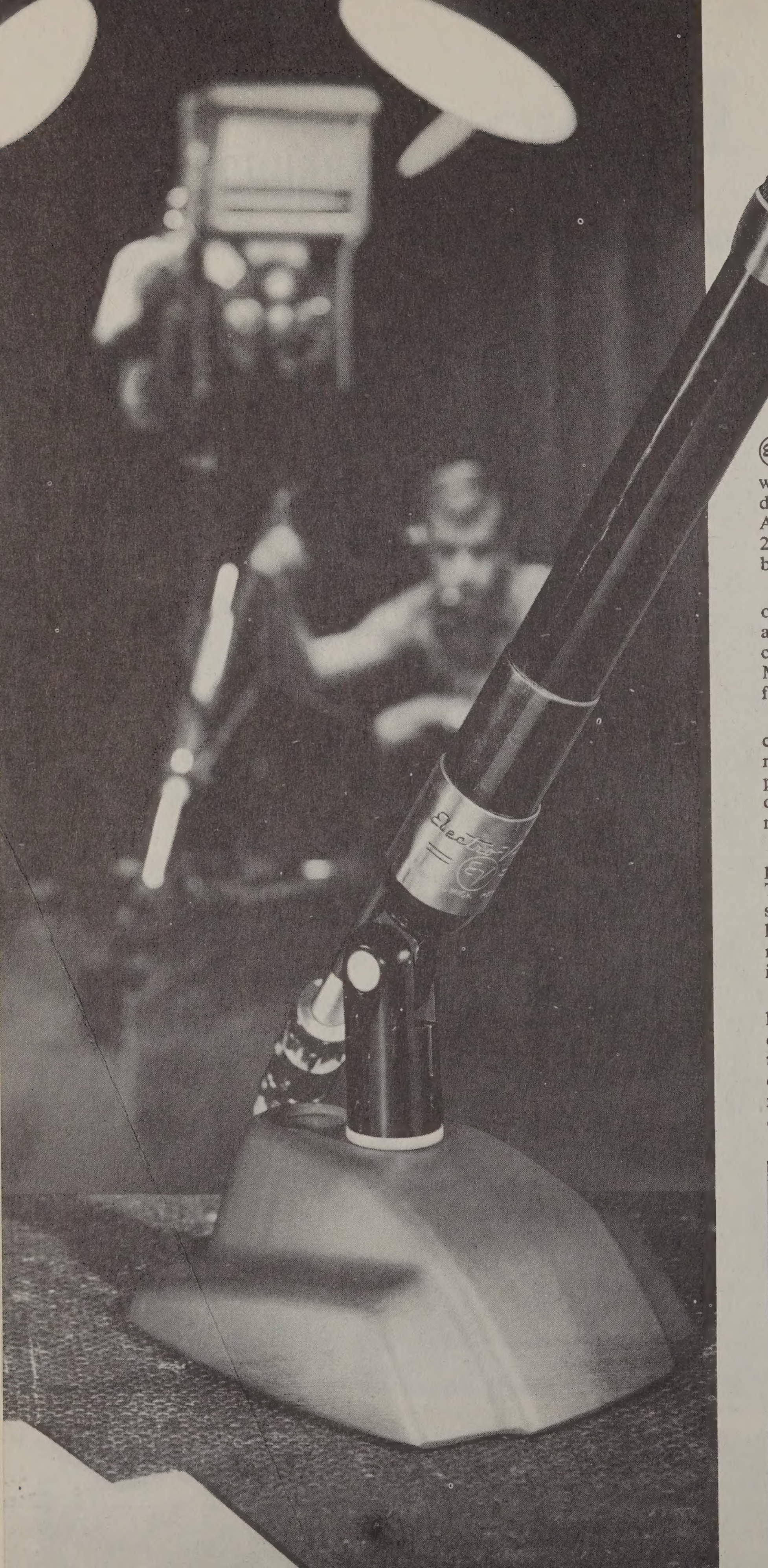
COLLEGE RADIO

The Voice Of A Great Industry

FEBRUARY, 1967

Vol. 4 -- No. 4

"OUTSTANDING FEATURES FOR TODAY'S PROGRAMMERS"



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College Radio

February, 1967
Vol. 4—No. 4

INTERCOLLEGIATE
BROADCASTING SYSTEM

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APRIL 1967

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2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
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30						

APRIL 15, 1967

THE INTERCOLLEGIATE BROADCASTING SYSTEM NATIONAL CONVENTION

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University Heights Campus
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Host: WNYU

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Berkeley Campus
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In This Issue

NATIONAL NEWS 4
AUTOMATIC AUDIO LEVEL CONTROLS 5
TWO DECADES OF COLLEGE RADIO 7
SCA MUSIC FOR THE COLLEGE RADIO 9
STATION OF THE MONTH: WGRE 12
1967 CONVENTION NEWS 15
REGIONAL REPORT 15
DESIGN AND CONSTRUCTION OF CONTROL ROOM 16

NATIONAL NEWS

Member Services Announces Master Handbook Reprint

IBS announced last month that the reprint of the System's Master Handbook was completed. Over 50 hours was spent in early January to coalate 80 copies so they could be mailed to recently joining members of IBS who hadn't received their handbook.

The Master Handbook is a 550 page manual of station operation IBS lends its members. It includes sections on all phases of station activity, and is one of the many member services offered by the System.

IBS Attack on FCC Brings Action

On November 14, 1966 the Federal Communication Commission issued a Notice of Inquiry in the Revision of FM Broadcast Rules inviting comments from interested parties on a proposal to adopt a nationwide table of assignments for non-commercial educational FM stations and other technical standards and criteria.

On December 8, 1966, the Intercollegiate Broadcasting System, Inc. filed a request for an extension of time for filing comments in this proceeding of 45 days. IBS urged the extension since time will be lost during the intervening holidays and since examination periods also fell during the time allotted.

Because the Commission felt the request was merited IBS was granted an extension of 45 days on behalf of the many college broadcasting facilities across the nation. (Another instance where IBS helps the college broadcaster.)

Stan Kenton Named Advisor for Intercollegiate Music Festival

Stan Kenton, who has provided many new inovations for the world of music, will serve as the Chief Advisor for the 1967 Intercollegiate Music Festival.

Kenton will be on hand at the national finals of the Festival next May in Miami Beach. He will also attend two of the Festival's six regional competitions, the Villanova and Cerritos College Jazz Festivals.

College stage bands, combos and vocalists from across the nation will be competing for a slot in the national finals and an opportunity to win a national championship for themselves and their schools. The Festival is sponsored by Sero of New Haven.

A pianist, composer, arranger and bandleader, Kenton's new sounds have won him many honors, including a Grammy and "band of the year" recognition. He has helped develop many of today's fine musicians, along with top vocalists June Christy and the Four Freshmen.

Progressive sounds of the Kenton bands have provided ammunition for both his fans and critics over the years. Kenton's interest in new sounds and young musicians and vocalists led to an intense desire to help collegiate talent.

For Stan Kenton and for the Intercollegiate Music Festival 1967 will be a year of big sounds, exciting competition and good music.

Broadcast Perceptor and Media Awards Announced

San Francisco State College has announced the opening of nominations for Broadcast Perceptor Awards and Broadcast Media Awards for the year 1966.

The Perceptor Awards, honoring leadership in the industry in five fields, and Media Awards, in six catagories for both Commercial and Collegiate/Educational stations, will be announced March 15, 1967.

The Awards will be made at the Broadcast Industry Conference at San Francisco State College on April 21. Nominations should be addressed to Benjamin Draper, faculty sponsor, Broadcast Industry Conference, San Francisco State College, San Francisco, Calif. 94132.

IBS Membership Grows

The following stations have been added to the conditional membership roles of IBS:

WCAL, (Dr. John Bratt), Calvin College & Seminary, Grand Rapids, Michigan, 49506; KRHC, (Donald D. Gerdts), Rio Hondo Jr. College, Whittier, California, 90601; WLPI, Louisiana Polytechnic Institute, Ruston, La.; KCUI, (Charles L. Willig), Central College (of Iowa), Pella, Iowa; (Mel Schroeder), Northwest Nazarene College, Nampa, Idaho, 83651; WIRQ (FM), (Mr. Michael Denesha), Irondequoit High School, 260 Cooper Rd., Rochester, N.Y.; WMSN, (Mr. Richard Estell), Michigan State University, East Lansing, Michigan.

Judges Selected for Intercollegiate Music Festival

Five top musicmen will select the national champions of collegiate music at the Intercollegiate Music Festival in Miami Beach on May 4-6.

The Festival judges, who will select champions in stage band, combo and vocalist categories, are Jerry Gray, Gary McFarland, Oliver Nelson, Father Norman J. O'Connor, and Bob Share.

Gray's "String of Pearls" and "Pennsylvania 6-5000," written for the Glenn Miller Band, have become standards. His arrangement of "Begin the Beguine" for Artie Shaw continues to be featured by jazz groups He is currently leading his own band on the West Coast.

Although he could barely read and write music seven years ago, McFarland has become one of the nation' top composers and arrangers. Hi credits include a jazz ballet, film scores, concerts and top albums. Hi

(continued on page 25)

Automatic Audio Level Control In Broadcasting or Recording

By JAMES D. JONES

As most broadcast engineers know, he audio level control amplifier or imiter is an essential requirement in he audio chain of a radio station. The peak limiter has been used in ound recording systems to prevent ape overload or disc overcutting while continuing to maintain a high evel of modulation. This is desirable o help reduce noise, and still not overdrive the recording system.

Most small college stations look with envy on their big brothers who can afford commercial limiters and gain reduction amplifiers. This condition need not continue, for any student engineer can build this "Auto Level Amplifier" in a few hours time and at surprisingly low cost. A glance at the block diagram and the schematic will show the simplicity of the unit.

This is not a peak limiter, for, although it will limit peaks, it will also raise the average level of soft passages to a certain degree and will hus pass a much more even flow of program to the transmitter. By setting the microphone channel on the console to a higher level than the turntables, the music will automatically fade during spoken passages and return to normal after the microphone is turned off. On remotes, particularly sports remotes, it will help control that very excitable sports announcer and nearly eliminate gain-riding by either the remote or board engineers.

The incoming signal is transformer coupled to the dual attenuator which sets the input level. Then the signal is applied to the grids of the type 6386 input-control tube, which is actually the heart of the level-control system. This is followed by a 12AT7 voltage amplifier and then the push-pull parallel 12AU7 output stage. A matching transformer and output attenuator feed the outgoing signal to he next link in the chain.

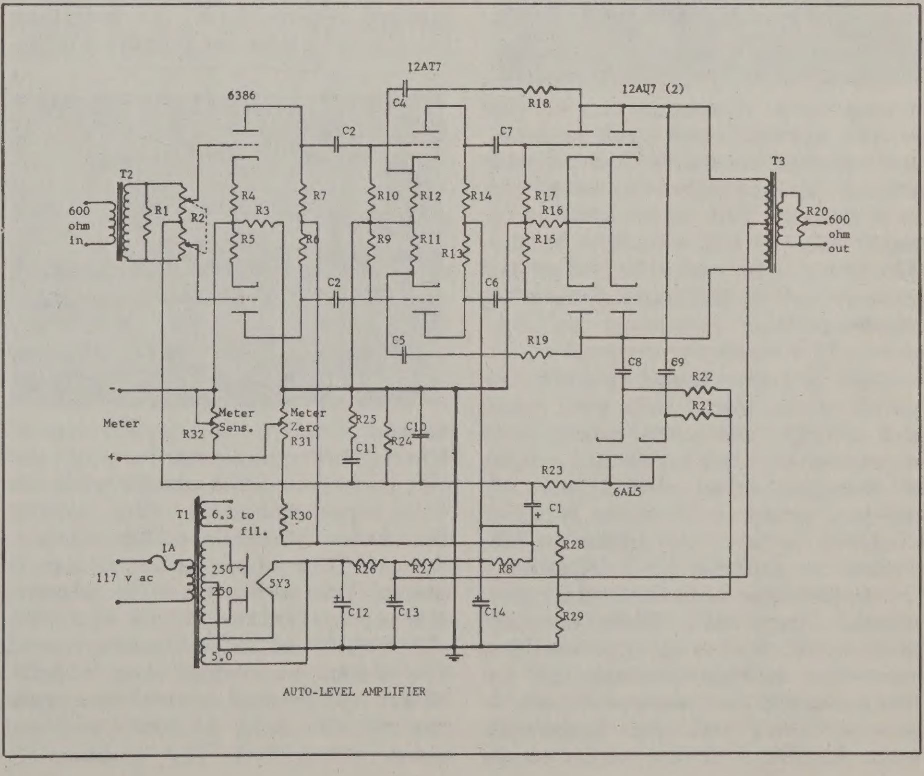
A portion of the output signal is tapped off the output plates through C8 and C9 and rectified by dual diode 6AL5. This is filtered and metered, then applied to the grids of he 6386 at the common point of the two input controls. The larger this DC signal, the more gain reduction is introduced. This can be controlled by the input level control, which, after an ideal setting is derived, should be left alone and additional level correction made by the output control, which has no effect on the limiting action. The recovery time, or time for the gain of the amplifier to return to normal, is governed by R-24 and C-10, for short-duration peaks, and by R-25 and C-11 for sustained peaks. About ⅔ recovery is achieved in 2 seconds, and 90 per cent in about 10 seconds. Adjusting R-23 will vary this recovery time. However, the values shown have been satisfactory in nearly all cases. It takes 25 milliseconds for control of the gain to be achieved by the amplifier after a peak is applied.

The unit was constructed on a 5¼ x 19" aluminum rack panel with a matching rack chassis bolted to the back. The front panel was kept simple, as the photograph shows, by eliminating all frills and having only the input and output pots, the gain-reduction meter, and the pilot lamp on it. A power switch was not used, as power is controlled with the rack master switch. Meter-adjusting pots and a fuse holder are mounted on the rear of the chassis. Naturally, deviation from our plans can be made to meet local needs.

The chassis was laid out according to good engineering practice. The power supply is as far as possible from the input stages to prevent hum and noise pickup. The tubes are positioned in straight-line configuration to permit short, direct wiring. A barrier strip permits connection to input and output circuits, and also connections for a remote gain-reduction meter, if desired.

We utilized as many components that we had on hand as we could—that is why the transformers look a little unconventional. The input transformer is an old Kenyon removed from an ancient Presto amplifier. However, it is perfectly good, and the response is flat within .5 db from 30-15,000 KHz. Conventional hand tools were used for chassis punching and drilling except for the meter hole —here we had access to a 2¾"

(continued on page 6)



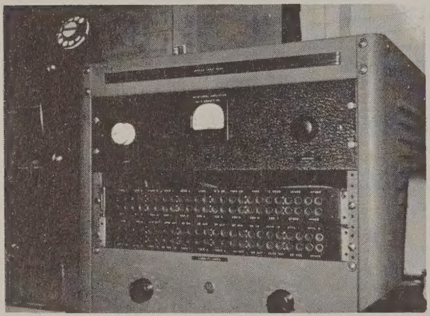
AUTO-LEVEL AMPLIFIER

Automatic Audio Control

(continued from page 5)

chassis punch which made the job much easier.

After the wiring is completed and checked, the unit is turned on and voltages checked. B-plus at the output of the filter section should be about 200 Volts. Adjust the meter zero pot for a zero reading with no signal input. Then apply the input signal and terminate the output in an amplifier or load resistor and adjust the input pot until the meter swings upscale on audio peaks. The meter sensitivity control determines how far the pointer swings on peaks of a given intensity, and naturally the pointer must be kept on scale. The output pot is adjusted for required audio into the following circuit.



The auto-level amplifier installed in the speech-input rack immediately above the jackfield. Small size and simple controls are immediately apparent The white knob is input level; the black knob is output. The pilot is immediately below the gain-reduction meter, in the center of the panel.

Once it is determined that the amplifier works, install it in your racks and arrange permanent wiring. It is suggested that the input and output be brought out to normal jacks on the jack panel, as for some types of program material it might be desirable to patch it out. (Removing the 6AL5 tube will disable all gain control functions)*. Then, the best recommendation is to experiment to see what settings produce the desired results for various types of service. Once you get acquainted with it, you will not want to be without it.

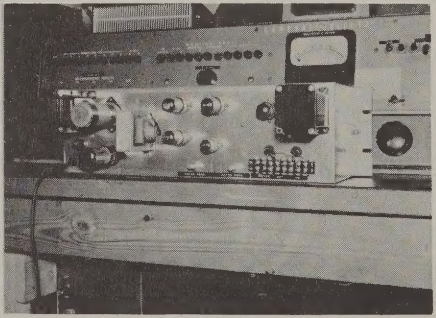
AUTO LEVEL AMPLIFIER PARTS LIST

R-1, R-30	68k
R-2	Dual 0.5 meg pot, audio taper
R-3	68 ohms
R-4, R-5, R-11, R-12	150 ohm
R-6, R-7	10k
R-8	22k 2 watt
R-9, R-10, R-18, R-19	150k
R-13, R-14	82k
R-15, R-17	470k
R-16	220 ohm
R-20	500 ohm pot, audio taper*
R-21, R-22	270k
R-23	56k
R-24	3.3 meg
R-25	10 meg
R-26	1500 ohm 10 watt
R-27	1k 10 watt
R-28	220k
R-29	27k
R-31, R-32	500 ohm pots, linear taper
C-1	20 @450 tubular
C-2, C-3, C-4, C-5	
C-6, C-7, C-8, C-9	.05 @ 400v
C-10, C-11	.5 @ 400 v
C-12	20 @ 450v
C-13, C-14	40 @ 450v
T-1	250-0-250, 5.0, 6.3 VAC transformer
T-2	600 ohm to push-pull grid input transformer UTC or other high-quality preferred
T-3	Push-Pull plates to 600 ohm line output transformer—also high quality
V-1	6386 tube
V-2	12AT7 tube
V-3, V-4	12AU7 tube
V-5	6AL5 tube
V-6	5Y3 tube

Miscellaneous (Chassis, panel, sockets, pilot lamp assembly, fuse holder, wire, knobs, hardware, etc.)

**Editor's Note: A switch in series with R 23 performs the same function and could be used for a "Limiting-On-Off" Switch.

The auto-level has been used for feeding remote lines, for recording from remote lines, for feeding a transmitter, and for use in tape duplication. It has even duplicated tapes at double-speed through the auto-level with good results. It is particularly useful for programs where a speaker is moving about the microphone—the amplifier substantially reduces the fading in and out as he moves around.



A rear view of the auto-level amplifier. The power transformer is at the left end of the chasis with the filter capacitor and 5Y3 rectiler between it and the output transformer. The input transformer is above the terminal strip. Across the top of the chassis are the 6386, the 12AU7 is below the first, and the 6AL5 is below the 12AT7. Mtetr range and meter zero pots are to the left of the terminal strip.

The cost of construction obviously depends on the parts on hand. If all new parts are used, around $65.00 should cover it. The pots and transformers should be of good quality. Silicon diodes can be used to replace the 5Y3 if desired.

One difference between this amplifier and other commercial units will be noted. Under no gain-reduction conditions, the meter will read zero, rather than a nearly full-scale reading. Pointer movement up-scale indicates gain reduction, as compared with down-scale deflection on most other limiters. This difference should create no problems.

**Editor's Note: A 600 Ladder attenuator fixed resistor "H" pad or other impedance matching attenuator should be used in place at R 20 to achieve a high quality output signal.

Two Decades of Campus Radio

By ROSWELL C. WILLIAMS, S. J.
Director of Communication Arts, Creighton University, Omaha, Nebraska

On a college campus the "hot" medium of radio has become "cool." I am here, of course, employing the distinction of pundit Marshall McLuhan in *Understanding Media.* If a cool medium "indicates a kind of commitment and participation in situations that involve all of one's faculties," then campus radio is certainly cool.

Before his astronautical rise to fame, McLuhan was one of my teachers—perhaps the most provocative I ever had. That he was teaching me a course in English Literature of the Seventeenth Century may seem to have little relevance. It may have much. For he taught me that the baroque prose of the seventeenth century with its multitudinous fragments might say a great more than the well rounded periods of Ciceronian English prose. Involved you had to be or Sir Thomas Browne's *Vulgar Errors* became merely another natural history.

About the Author

Roswell C. Williams, S.J., has been Faculty Moderator of KOCU, the Creighton University campus radio station, since its establishment in 1947. He has been Director of Communication Arts at Creighton since 1950, has held a full professorship since 1961. His degrees are from Xavier University, Cincinnati, and St. Louis University. In 1954 he attended the first UNESCO conference on the educational and cultural uses of television in London. In 1957 he was awarded a Fund for Adult Education fellowship for studies in the mass media. He attended the First International Congress on Educational Broadcasting in Rome in 1961, the Second in Tokyo in 1964.

It is in the setting of a liberal education that I see college radio. Freed from the post-Gutenberg notion that in print alone does man live, campuses with their own radio station accept the electronic media at least to a point. Usually, however, acceptance is not to the extent of recognizing that every educated man and woman today should know how to use a microphone, should acquire the same ease with it that he has with his typewriter. Of course, not every student envisions a career in the electronic media. But men and women in all walks of life are continually called on to use a public-address microphone, or to record a radio or TV spot for the Community Chest or some other worthy cause. The "mike fright" many of these people reveal is almost incredible. Even a little work on a campus station could have conditioned them beyond the stage of the illiterate who tremble when the pen is handed them to make their X. Just as we except college graduates to demonstrate to some degree that they are literate, we should also be able to expect them to be "microphonate," if I may coin a word.

For the reasons imbedded above, I believe campus radio station staffs should be open to all students, not merely to those intending careers in the electronic media. At KOCU, the Creighton University campus station, we have always welcomed premeds, predents, prelegs, prepharms, and majors in any field of arts and sciences or business administration. Ours has been up to now an elected not an appointed student, but students recently requested that the faculty moderator and faculty adviser together appoint a staff from student nominees. Twelve positions are open on the executive staff. To most of these, communication arts majors are elected or appointed because the other students recognize that they have a better "over-all conspectus of the general picture," to use a conscious tautology of one of my colleagues. The executive staff tries to see that KOCU adheres to professional standards as far as possible. This ensures that the campus station does not become a mere toy, its operation merely a game. To be sure, the student staff—both executive and general—have a lot of fun. But they know that even light verse—to make an analogy Gutenbergians will appreciate—has to adhere to rules or come a cropper. Why straight-jacket campus stations with professional rules of timing? Why manacle the lowly limerick or the high-flying *ballade* with professional prosody?

Nor will any old form of *log* do. Especially since the FCC has simplified required forms, it is relatively easy to make out a professonal form and fill it in properly. Here the looming spectre of the commercial can become a friendly genie. Because carrier-current sations are allowed to carry commercials, I favor them over the educational FM station which cannot. The amount these commercials—at least ours on KOCU—bring in is peanuts, not even half enough to pay for our news-wire service. But the engendered responsibility of logging the commercials and having them notarized at the end of the month is worth a great deal.

Another and more telling reason I favor carrier-current is that the diffusion of its signal can be restricted to residence halls. Thus students practice on themselves, not on the general public. Ideally we should like to have both a carrier-current and an FM station—the former as a training ground for tiros, the latter for advanced students. But in our locale, the cream of the student staff find jobs on commercial stations just at the time when they would be ready to perform on a college FM station reaching the general public. At surface view this might look like a happy situation. I am not sure it is. Were capable undergraduates to "graduate" from carrier-current to the staff of an ideally operated college FM station, much more could be demanded from them than is sometimes demanded at 250-watters almost anywhere. The so-called "training" held out to student "slave-labor" at the latter is too often a chimera. Should the student accept it as real, figuring that he has now "made it," he may be seriously limiting his professional potential. It is surely a step forward that management of larger stations now accept campus-station as well as small-commercial station background as legitimate "experience" on a fact sheet from prospective employees.

If there is any one word that ought to characterize programming on a campus station, it is *experiment*. As far as KOCU is concerned, there was more creative experimentation with programming twenty years ago than there is today. World War II veterans spearheaded the efforts, working with minimal equipment, much of it homemade. One of their efforts was a series of dramatic sketches involving "Updyke Nearly and Downdyke Almost," each program carefully scripted week after week. Much of it was filler, some a filtration for civilian ears of G.I. humor, some conscious or unconscious filching from USO shows. But it also had some original spots, showing the sort of creativity which later led one of the team to a Peabody Award—for a children's series! I do not expect—but I could be wrong—similar results from a recent experimenter whose idea of humor was to play recordings at the wrong speed. Some special programs of satire on the news would, I suppose, be a possibility. But satire is very difficult for amateurs to carry off successfully. A scuttlebuttitudinous student desiring to do campus rumor mongering, appears on the scene occasionally, of course. Even if he can find a Bill Buckleyite to team with him to hold him down, he usually gives up in short order when he discovers the sheer weight of work involved in scripting such a program so that his cool compeers won't hoot him off the scene. Besides, does there need to be experimentation on the air with the Yellow Kid?

Clearly one of the problems of setting quasi-professional standards for the operation of a campus station is the curtailing of experiment since such a large part of the radio industry has settled for the tried-and-true. What is the answer? I don't know. As a senior professor (I am now eligible for the "Golden Age Club" that admits me to a chain of first-run movie houses at half price), I lean toward being a sellout to conservatism. Yet my creative instincts rebel. If our art department can do really creative things with welding torches and metallic sow's ears, why can't we accomplish at least a modicum of creativity with microphones, mixers and the sound track which once accompanied a friendly Disney lady pig carrying her colorful silk purse? The result might be something equivalent to the "low" style of Renaissance prose. For the "low" style meant simplicity and clarity of communication. William Roper used it in writing the life of his father-in-law Thomas More, a book which four centuries later sparked the creativity of Robert Bolt to turn out "A Man for All Seasons." Radio needs dialogue of the crisp, clear type Bolt has done for the play and the film script. Full length dramas are not too likely products of campus-staff ballpoints or electric portables, nor would they perhaps be welcomed by either program directors or denizens of dormitories. But really creative short dramatic sketches would probably be welcomed by both.

Of transcribed talk programs in the "high" style, there is an abundance available "free." I am inclined to be cynical about the gratis aspect, not altogether justifiably so, I admit. Some subsidized talk programs offered to campus stations free—for obvious reasons—yet embody a good deal of integrity on the part of the sponsors. If a professional friend of mine is right, "the ethic is in the industry," and some industries are represented by highly responsible people, of the type who would "build the earth" with Teilhard. A public-relations series from such industries may be very good indeed. Whatever propaganda it may contain will be honestly forthright, not the "hidden tendency" sort of thing my European film friends sometimes see between the sprockets.

Live interview programs on campus stations, at least in my experience, run a gamut from the high, to the medium, to the low style. The self-conscious young instructor will tend to the high style when he is being interviewed by a student, assistant and some associate professors to the medium style. Only the aging and experienced Dr. Chips (Mr., Mrs., or Miss)—ordinarily—will risk rising to the low style with its straightforward simplicity. Pomposities of the high style will have faded with the color of the hair. Student interviewees range from the giggly coed to the deadly serious upper-third Poli Sci student being interviewed about an international crisis. Panels of students-with-a-cause are likely to be best organized, although they are sometimes infiltrated today by the uninformed extrovert who would rather embrace causes than read or study, rather talk than listen to the well informed.

Off-campus interviewees vary a great deal. Show-biz folk of course love to be interviewed: it's part of their business. But it's often more than that. Sure, these starry-eyed collegians will buy their records, see their plays and films. Just-out-of-adolescence youth, however, often seem to fascinate stage and screen personalities. Perhaps three generations of show-biz people in my own family have caused me to give a bigger break here than I should. However, the mental punches in my computer cards of student reporters returning from backstage interviews stack the interviewees very much on the plus side. Should karate experts be considered show-biz folks? Under some aspects yes; under other aspects rather as defenders of human life and the dignity of the human person. (Hear! Hear!) Tonight I heard a coed interview a karate expert on the campus station, hence the intrusion of these thoughts. He was excellently articulate, neither aggressive nor timid; she was a mature young lady seriously seeking information. The interview was highly communicative beyond the level of many a factual article in print. Radio had given added dimension of human being communicating to human being, as it can do so very well.

Of music, the staple of campus-station programming, much can be said. Certainly playing records at random does not make for good programming. Some organization, some unifying principle needs to be present. For the unimaginative programmer, level—pop, semi-classical, classical—may give the only identifiable unity. Show tunes give us the best of Broadway musicals, sound track albums some of the most banal Hollywood hack composing. Neutrally decibelitarian music-to-study-by may be acceptable before and during examination week, but should otherwise be left to the wires of Muzak or the twenty-five hour tapes of 3-M. Jazz

(Continued on page 24)

SCA Music for the College Station

By JAMES D. JONES

Many college radio stations, particularly those broadcasting on AM and using carrier current, are not programmed live during large portions of the day. In order to fill these silver mica capacitors for C4 and C5 in order to make the local oscillator as stable as possible.

Chassis layout is not critical. The sketch shows the layout and placement used by the writer. No power switch is used, as current drain is very small. It simply comes on when the rack is energized. The feed-thru bypass capacitors are used for test points, and are very useful for alignment. Don't omit them.

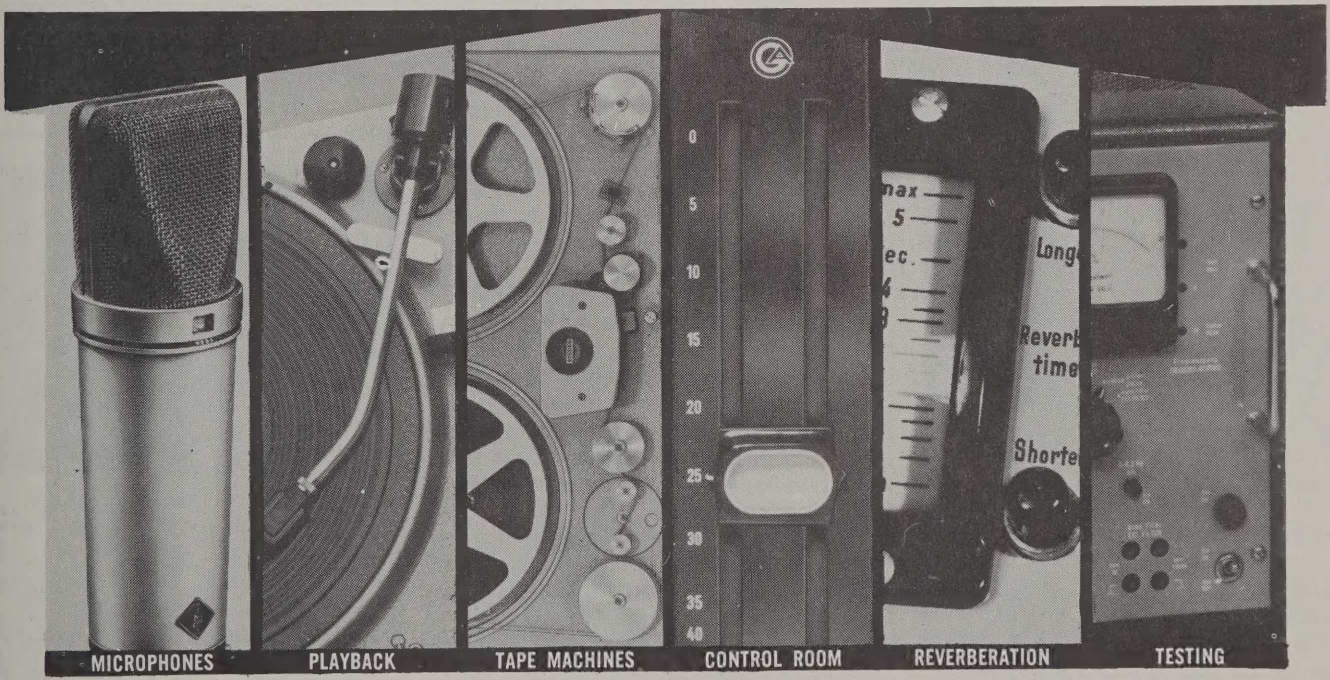
After the unit is wired, set it aside and examine your main FM receiving facilities. A good antenna system with a rotor should be used, as it is necessary to have the maximum signal strength for proper limiter operation and minimum cross-talk from the main FM channel. Also, check to be sure that the FM receiver has a detector output. If not, it will be necessary to install an output directly from the discriminator or ratio detector. The de-emphasis networks in the audio outputs will filter out nearly all 67KHz subcarrier components, and the adapter will not work. It does not matter if a stereo receiver is used—no loss of existing receiver facilities will result.

Tune in a station known to be carrying an SCA signal, and rotate the antenna for maximum signal strength. Now connect the detector output of the receiver to the 67KHz input jack on the adapter, and turn the adapter on. Connect a VTVM to the feed-thru capacitor TP-1, and tune L1 for maximum indication on the VTVM (use a -DC scale). Tune both slugs of T1 and T2 for maximum. At this point, feed the audio output of the adapter to an amplifier-speaker, and audio should be heard. Now move the VTVM probe to TP-2, and adjust T3's secondary for zero. The primary can be tuned for maximum audio and minimum interference from the main carrier. Be sure to recheck TP-2 for zero reading. Note that the squelch relay will close between musical selections and open when music is heard.

In the FM transmitter, an audio-sensing relay disables the subcarrier generator when no audio is present; i.e.—between selections. This absense of subcarrier is used by the receiver to short its audio output, thus eliminating the FM noise and co-channel interference.

Figure 1 is a top view of our unit, removed from its mounting for the photo. The unit is built following the diagram and layout in this article. Figure 2 illustrates our complete FM-SCA installation. The Tuner is a Tech-Master mono-stereo unit, modi-

(Continued on page 10)



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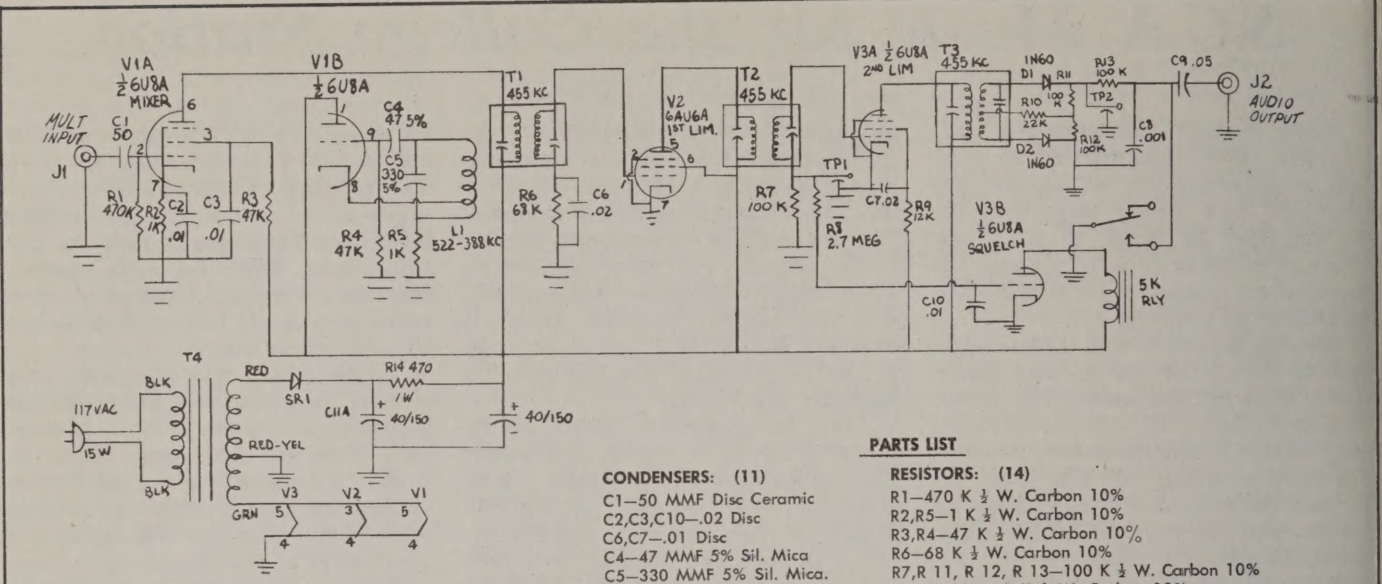

PARTS LIST

CONDENSERS: (11)

C1—50 MMF Disc Ceramic
C2,C3,C10—.02 Disc
C6,C7—.01 Disc
C4—47 MMF 5% Sil. Mica
C5—330 MMF 5% Sil. Mica.
C8—.001 Disc
C9—.05 Disc
C11A,B—40-40 @ 150 elect.

RESISTORS: (14)

R1—470 K ½ W. Carbon 10%
R2,R5—1 K ½ W. Carbon 10%
R3,R4—47 K ½ W. Carbon 10%
R6—68 K ½ W. Carbon 10%
R7,R 11, R 12, R 13—100 K ½ W. Carbon 10%
R 9, R 10— 22 K ½ W. Carbon 10%
R 8,— 2.7 meg ½ W. Carbon 10%
R 14—470 Omega, 1 watt 10%

MISCELLANEOUS:

1—chassis 1 x 5 x 7 app.
2—455 KC IF Trans, 6455 C-16
1—455 KC Disc Trans, 2455C3
1—120 V. Pwr.-fil Trans
2—9 Pin Min. Sockets
1—7 Pin Min. Sockets
1—5 K Plate Relay S.P.R.T.
1—BC OSC. Coil, Tapped Type
2—Phono Jacks
1—Filter, 40-40 @ 150 dcv
2—Diodes, In6o etc.
1—75-50 MA Selenium rect.
1—AC Cord & Plug
2—6U8A
1—6AU6A
1—7 plug Tie Pt. Strip
1—4 plug Tie Pt. Strip
1—2 plug Tie Pt. Strip
2—100 MMF TPs (feed thru)
15—4-41X½ screws w/taps
5' Hook up wire

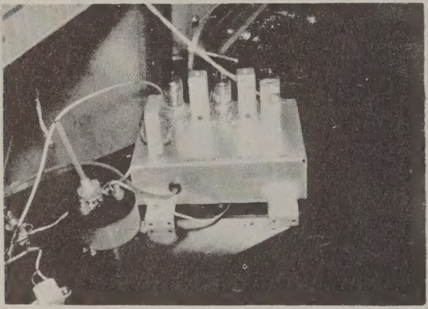

Figure 1. An overall view of the SCA adapter removed from its normal rack mounting. The small size and simple construction lends itself to most station budgets and installation situations. Refinements, such as meters, indicator lamps, etc., need not be used for effective operation.

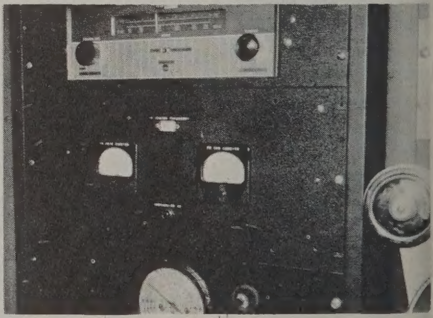

Figure 2. Here the SCA adapter is hidden by the meter panal, which indicates signal strength of main and sub-carriers, center frequency of the main carrier, and also an indicator lamp to show the presence of a subcarrier. Connection details are given in the text.

fied for 75 ohm antenna input, dis- hours, programming is picked up from a commercial station, usually FM, and rebroadcasted. This procedure results in excellent music, but also, the college station is carrying the ID's, promotions, and occasionally commercials from the originating station. This is a distracting interruption to the otherwise flow of good music, and is particularly annoying to those who are attempting to study with a musical background.

Certain FM stations are licensed to broadcast under a Subsidiary Communications Authority, or SCA. This is a subcarrier superimposed on the main carrier, and modulated with a totally different program from that of the main carrier. This subcarrier program is inaudible on a standard FM receiver, and is most commonly used to carry background music to stores, restaurants, and so on. This music is programmed from tape, is of AM quality (the FM main carrier can only be modulated 10% by the subcarrier), contains no spoken messages or ID's, and generally is programmed 24 hours per day (at least in the author's location). It is therefore very suitable for filling the hours during which no local programming is scheduled.

In order to receive an SCA transmission, one needs a good FM receiver, a good FM antenna system, and some type of adapter to demodulate the subcarrier program. This adapter is quite simple and can be readily built by the station's engineering staff.

The circuit diagram shows the details of the unit. The subcarried input from the main receiver, usually

(continued on page 23)

President and Mrs. Adron Doran confer with director Gene Clark just prior to air time when WMKY-FM presented MSU IN REVIEW, a recap of the events and scenes, in sound, of the fall semester at Morehead State University.

WMKY-FM Morehead State In Review

Radio Station WMKY-FM presented a recap of the outstanding vents and scenes, in sound, which ccured on the Morehead State University campus during the fall semester of 1966-67.

Four full hours were packed with nemories of the semester. Some of he highlights were: a four minute eview of the Morehead-Eastern Kenucky State University football game iving the Eagles the championship pot in the Ohio Valley Conference, look at the rapid construction on he campus and a spot check of the Iomecoming Activities.

The broadcast was a combined ffort of three classes at Morehead: adio Production-Direction, Radio nnouncing and Radio Workshop. ary Yarus, Program Director, served s moderator, thus supplying the tying link to each segment.

A total of 188 hours were spent on engineering, production, announcing, directing and promoting the program.

Several remote locations were set up on the campus for each segment, including one at the President's Home. Dr. and Mrs. Adron Doran gave a complete summary of the semester, recalling the awards and accomplishments of the university.

Another special broadcast was Registration Central. During registration for the second semester, remote units broadcast up-to-the-minute reports of class changes, procedures for payment of fees, purchase of books and other registration information from a position overlooking the registration area.

Would you go into a final with one pencil?

It's unlikely, but most college broadcasters go on the air with only one transmitter—no spare. If it goes down you might lose more than the cost of a second transmitter in cancelled advertising.

LPB's compact carrier current transmitters are reliable, easily installed and low priced. We also offer an application assistance service at no cost for broadcasting problems of a technical nature.

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STATION OF THE MONTH

A Profile of WGRE -- Depaw University

WGRE, FM educational radio station owned and operated by DePauw University in Greencastle, Indiana, has achieved a distinctive position in college broadcasting. A number of factors have enabled the station to attain this reputation:

* WGRE was the first 10-watt educational radio station in the United States. Under the direction of Dr. Herold T. Ross, the station first signed on the air on April 25, 1949. After thirteen years of radio service to the community of Greencastle, DePauw University decided to increase the power of the station. A 250-watt Gates transmitter was installed with effective radiated power of 114 watts, sufficient to cover most of Putnam County.
* WGRE was the first radio station in Putnam County, Indiana, and for seventeen years has offered exclusive radio coverage of local community and college events.

Jane Turk demonstrates the origional 10-watt FM GE transmitter — first in the United States. This was on the air at WGRE from 1949 to 1962.

Two sports teams depart from East College on the DePauw campus to broadcast a double remote: (left to right) Doug Copeland, Tom Drew, Craig Brines, and Bob Steele.

* WGRE was the only radio station in Indiana to be granted permission to broadcast two events in the Indiana State Semi-final Basketball Tournament from different locations last March. This opportunity arose from WGRE's position as the radio outlet for two Putnam County teams to reach the semi-final tournament. A WGRE sports team first covered the Cloverdale "Clovers" from Evansville; the station then switched to Lafayette for a play-by-play account of the Bainbridge "Pointers."
* WGRE has earned an impressive list of "firsts" in local community broadcasts:

  In 1960 WGRE pioneered a tribute to Mrs. Libbie Garrett, who had cooked "goodies" for Greencastle for over fifty years. On Valentine's Day the station, along with other community organizations, paid honor at a capacity-crowd luncheon in the Union Building to "Greencastle's Sweet heart" on "Libbie Garrett Day." The event received state-wide publicity.

  WGRE has followed every election—local, state, and national — with an elaborate "election central" set up in the studios and remote lines to the court house. An intensely interested county audience follows the returns, and the candidates vie for an opportunity to be interviewed on election night.

Craig Brines, Co-director of Sports, doubles as Santa to entertain Greencastle fifth grade members of th staff of Children's Playhouse

* WGRE has also scored man "firsts" on the campus:

  The Special Events staff ha been on hand for numerou

(continued on page 13)

historic DePauw happenings —a welcome to the G. E. College Bowl team on their triumphant return from New York with their silver bowl trophy for five victories, a description of the visit of Richard Nixon, then Vice-President of the United States, and a direct coverage of the speech by Harold Macmillan, then Prime Minister of Great Britain, on the occasion of his receiving an honorary degree from DePauw.

WGRE broadcasts were a major factor in helping the DePauw chapter of Phi Delta Theta win a top national award for its workshop for community service.

* WGRE was the first educational station in Indiana to host a meeting of all Hoosier college stations. Organized by Bayard Walters, promotion director in 1963, this event drew representatives from practically every college station in the state.

* Along with this impressive list of "firsts", the station boasts a "second"—it is the second oldest collegiate broadcasting station in Indiana, following only WBAA in Purdue.

This record of achievement has been made possible by several factors. WGRE has always been a student centered operation. The faculty and administration have permitted the staff free range without academic or propaganda pressure. The organization has a faculty manager—Speech Professor Elizabeth Turnell. A full-time secretary and a chief engineer also serve the staff. With these exceptions, the staff is entirely operated by students. A Board of Directors of seven student assistants, receiving part-time pay, supervise all broadcasts. Known as "V.P.'s," these students also serve as department heads for the fifty staff members.

The quality of their leadership is indicated by the campus positions held by staff members. Marty Farrell, this year's sports director, was elected president of the student body for 1966-67. John Huneke, sports announcer, was elected president of the Student Union. Jan Strasma, program director, was named to Phi Beta Kappa and also cited as the outstanding student from the Chicago area.

In addition to the confidence expressed in the staff by its "hands off" program policy, DePauw's administration has given solid financial support to the students. Modern studios in the Student Union Building include a control room, staff room, news room, large studio, and a combination audience-classroom. A full range of equipment with a Gates transmitter, a G.E. console, Gates turntables, seven tape recording machines, four remote units, numerous microphones, and accessories provide professional facilities. AP news service is a valuable asset. With the exception of re-

(continued on page 14

CHECK these ADVANCEMENTS in our

ALL NEW

'67 MODEL

AC-155 AUDIO CONTROL & REMOTE UNIT $1095.
Also Avail. in Stereo.

☑ **5 MIXING CHANNELS**
The all transistorized A-15 audio console has increased mixing to help you expand your remote and studio production potential.

☑ **14 AUDIO INPUTS**
The AC-155 will now accommodate six low level audio sources, including the right and left turntables, and eight high-level sources.

☑ **NEW LEG DESIGN**
Leg supports are of sturdy two inch chrome tubular steel. Foot rests are molded at outward angles to provide a solid jar-proof foundation. Leg units are removable for easy transporting.

☑ **ADDED FLEXIBILITY**
Perfect as a full broadcast facility for production or recording studio, main studio control or any remote assignment. Solid state console is removable. Additional features include 3 speed custom turntable, lift-leaf work surface and all channel monitor / cue system.

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mote sports broadcasts, all expenses are underwritten by DePauw University.

A contributing factor in WGRE's success has been its unusual position as the only station in Putnam County for seventeen years. This exclusive coverage has permitted the station to be integrated into and not isolated from the community. The staff has taken the initiative in making its facilities available to various business concerns. Each Christmas the Special Events staff takes its equipment to a display window in a store on the town square for "Christmas Corner," a program of Christmas music, letters to Santa, and interviews with shoppers. Business join to provide financial support for broadcasts of county high school "remote" basketball games. These sport broadcasts are considered a prestige symbol to the teams as well as a convenience to home listeners.

WGRE microphones have been freely opened to Putnam County schools. Three high schools have their own weekly series of school news and music. The elementary schools of Greencastle have a weekly "showcase" for their activities. A recent proposal of a daily half hour of programs produced entirely by the Greencastle schools is under consideration. Dr. W. M. Clary, Superintendent of Schools, has stated:

> "WGRE has added a great deal to the success of the Greencastle Schools. I have appreciated your courtesies and cooperation.
>
> "I am hopeful that the senior high school may find a way to implement your recent proposal. I shall recommend it to the School Board."

In addition to the school-oriented program, the children of the community have a story and game hour, and fifth graders dramatize fairy stories under the direction of college students.

The older citizens have contributed *Historical Greencastle*, a series of reminiscences of our town. WGRE may have the distinction of the oldest announcer on record—97 years old. Her voice was clear and understandable, and her memories of Greencastle fascinating.

With campus and community support and with no "red tape" restraint from the university or pressure from the public for special points of view, WGRE's fifty weekly hours of broadcasting has developed into a creative and practical service, enhancing the reputation of DePauw by the diversity and quality of programming.

A full-scale survey, taken last May by Tom Drew, production director, gives approval to cultural series such as the two-hour daily program of recorded classical music and direct broadcasts of concerts by the School of Music as well as to the late hour D.J. shows of jazz or rock and roll.

Special educational features have included original radio drama. "My Sister Anna," a radio play by David Briody, speech instructor, had its premiere on WGRE last year, and the Indiana Sesquicentennial provided the occasion to revive an episode from *Tales of the Old Trail,* a series of stories in the history of U.S. Highway 40, the old National Road. This series was written and produced by DePauw students.

The foreign scene is covered by such series as *Jugoslavia Today,* recorded in Jugoslavia last summer by Jan Strasma. This series was also broadcast by Oberlin College.

In accordance with DePauw's Methodist tradition, religious programs are represented by the direct broadcast of a Sunday service from Gobin Methodist Church, located on the campus. A 15-minute program of inspirational music by the DePauw choir and a short talk has been carried for twelve years by WGRE and first by WIRE and later by WFBM in Indianapolis.

WGRE attracts listeners and performs a public service by various off-the-air projects. Two editions of a brochure entitled *Europe Bound* have been published and sold by the station. These booklets contain tips on European travel by DePauw faculty and students.

Another project greatly appreciated by listeners is the sponsorship of a series of Theatre Parties to dramatic productions at Indiana University in Bloomington. A chartered bus and a block of tickets provide entertainment for Theatre Party patrons.

To reinforce the station as the hub of campus news, WGRE publishes the university calendar, along with a listing of programs to be broadcast. Entitled *Kaleidoscope,* this package is mailed to 500 listeners each week. In addition to the news of programs and campus events, a "Cultural Calendar" lists events at near-by colleges and cities.

The station keeps in close touch with its graduates: Many WGRE alums hold important broadcasting positions: Harry Jacobs is sales manager at WMAQ in Chicago; Bill Oberholtzer is Associate Media Supervisor for Leo Burnett Agency; John Buckstaff is Radio-TV producer for the University of Chicago; Bill Hayes is a well-known New York radio-television personality.

* * *

The affection with which listeners regard the station is illustrated by a comment on one of the replies from the survey taken this year—"I love WGRE."

Can Iota Beta Sigma contribute to your station? What can the Collegiate Broadcasting Fraternity offer? How has the honorary fraternally united stations across the country?

Have these questions been stiring in your mind? Isn't this the time to do something about it?

Now is the time to consider what your staff is missing, how a Chapter could help your station, how your staff could contribute to college broadcasting.

Write today for membership material.

Iota Beta Sigma
National Collegiate
Broadcasting Fraternity
Bethlehem, Penna. 18015

1967 IBS Convention Unique in Fashion

Simultaneous Conventions on East and West Coasts

The Intercollegiate Broadcasting System will reach a new height of expansion on April 15 when the Naional Convention is held in two ocations, Berkeley, California and New York City. This arrangement will ease the financial burden on member stations sending delegations to the convention.

The two halves of the convention re being coordinated by the convenion chairmen, Richard Robins of WNYU, New York for the East Coast and Jim Welsh of KA1, Berkeey for the West Coast. Tom McCloud, I.B.S. Systems Vice President n bethlehem, Pa., is providing overall uidance in order to mold the two atherings into one National Conention.

The annual College Conference of he International Radio and Teleision Society will be held in New York on April 13 and 14. Members ttending the New York I.B.S. Conention may also want to attend the .R.T.S. Conference and spend three ays in New York City. The Hotel Roosevelt has traditionally provided he lowest rates available for college student in the New York area. They re: $10 for a single room, $14 for twin bed room, and $18 for a triple room. Reservations should be made with the Hotel Roosevelt (212 MU 6-9200), not WNYU.

The West Coast Convention at the University of California at Berkeley will continue from Saturday, April 15 through Sunday, April 16. Sleeping arrangements will be provided and information will soon be available.

The East Coast Convention at the Bronx Campus of New York University will follow the format used at previous I.B.S. National Conventions. Registration starts at 8 a.m. and coffee and donuts are served from that time on. From 9 to 11 a.m. more than 25 record companies and equipment manufacturers talk to all delegates and demonstrate their products. The first group of 4 or 5 workshop sessions starts at 11 a.m. and lasts for about one and a half hours. Luncheon is served at 1 p.m. and this year's luncheon speaker is R. Peter Straus, President of the Straus Broadcasting Group which includes WMCA, New York. Mr. Straus is responsible for the approval by the F.C.C. of broadcast editorials and for the one man, one vote decision of the Supreme Court. The Convention concludes with a second group of 4 or 5 workshop sessions at 3 p.m. Some of the sessions scheduled are broadcast news production, educational programming, rock and roll production, carrier current transmitters, sales and management.

At Berkeley, registration is Friday evening and Saturday morning. There are three 2 hour workshop sessions on Saturday and a banquet at 6 p.m. Topics for the workshop sessions are similar to those for the New York Convention and some of the professional broadcasters attending are Varner Paulsen, Program Director of KNEW and Ney Landry, the F.C.C. Supervising Engineer of San Francisco. There is a fourth workshop session and a closing I.B.S. meeting on Sunday. A record company and equipment exhibition hall is open all day Saturday.

The registration cost per person for the New York Convention is 75¢ for I.B.S. members and $1.50 for nonmembers. The Luncheon in New York will cost about $4. Registration forms for both conventions will be mailed out during February.

Any member station that wants more information about the Twenty-Eighth Annual I.B.S. Convention should call and write Tom McCloud at I.B.S. National Convention Headquarters, Bethlehem, Pennsylvania 18015 (Telephone 215-867-0121).

REGIONAL REPORT

ictured above is Thomas L. Adams f KCSB-FM, UC Santa Barbara, he Conference Director.

Pacific Region Holds Conference

More than 80 broadcasters from as far away as Flagstaff and Phoenix, Arizona and Portland, Oregon recently attended the Pacific Region Conference held at the University of California Campus of Santa Barbara.

Various tours and discussion sessions highlighted the two day conference directed by Thomas L. Adams of KCSB-FM. A talk by Chancellor Cheadle of the University highlighted the dinner banquet.

After being presented with newly proposed FCC action for FM facilities by IBS Vice-President Dave Borst, the assembly adopted the following informal resolution:

1. Those present were opposed to the FCC's proposal to do away with 10-watt Educational FM.

2. They pointed out that this medium is a training ground for a great many people working in radio. Using a licensed station for such training acquaints the trainees with FCC regulations and pro-

3. If campus broadcasting groups must obtain permission for higher power operation they will find this much more difficult to obtain. The greater coverage afforded by the higher power will make college and university governing bodies

(continued on page 19)

Design and Construction of a Control Room Facility for Recording and Broadcasting

Have you ever had the dubious honor of *moving* a radio station? we did. At least, we moved our complete audio control facilities into new quarters this past summer, and except for a heavy transmitter, tower and transmission line, it was just like moving a radio station. Don't ever do it if you can avoid it!

This is not a treatise on how to move a station. Rather, we would like to present a description of our system in the hopes that our readers might glean a little useful information and profit from our experience. We didn't do everything right, but perhaps we can present some useful ideas.

The design for the audio system center is a General Electric BC-1A two-channel console. One channel is normalled to the carrier-current transmitter for program transmission; the other is normalled to the recording buss through an auto-level amplifier and isolation transformer. Only two microphone channels are used—the other two are used for tape recorders. Considerable use was made of jacks for inputs and outputs. This permits rapid system re-arrangement or substitution if needed.

Figure 1 is a rough-scale sketch of the control room layout. Since the room is small, it was necessary to place equipment in a neat, efficient manner, as work space is at a premium. The racks required access space at the rear: they are located 24" from the wall behind them. The turntables fit tightly against the wall, but the console table must be set out in order that the console will tilt up for servicing.

The first step in installation was the physical placement of the equipment. After this was decided, we bored several holes through the floor behind the racks, console, turntables, and disc recorder to permit running inter-unit wiring through the basement below. This also permitted running all AC power directly from a special fuse panel to the equipment, and also lines to the large metal cabinet in the basement containing FM and TV antenna amplifiers and distribution terminal strips for remote lines and speaker lines.

Cables were made up in the following manner: a single piece of wire was pulled through the floor holes between various equipment locations. This was cut to length and used as a measuring reference in cutting the audio cables. We included several spare lines in each cable to allow for future expansion. After cutting, both ends of a line were tagged with Brady Wire-markers, then the lines were laced together with lacing twine. The completed cable was then pulled into location and the ends cut to length and terminated on telephone "porcupine" terminal blocks in the racks, and on barrier strips at the main patch bay.

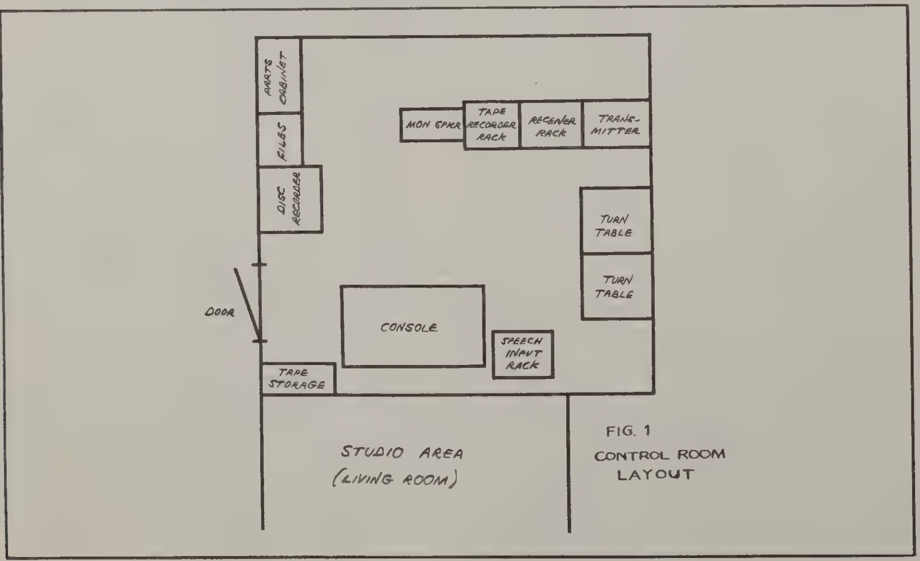


FIG. 1
CONTROL ROOM LAYOUT

A word here about the "porcupine' terminal blocks. We had several on hand, each with 4 or more rows of terminals high, and about 25 long We wished to make the blocks eas to wire, so we dismantled them an removed every other row of terminal vertically, and left only the botton row and upper two rows horizontally This made it much easier to wire, an we still had a surplus of terminals The bottom row was used for th cable shield; the upper two rows fo the signal conductors. These termina blocks can be obtained from you local phone company for a very rea sonable price. (They might even giv you some old ones). We find ther very useful for permanent wiring. C course, lines are then run from th block to the rack-mounted equipmen and the rack lines cabled an clamped into place.

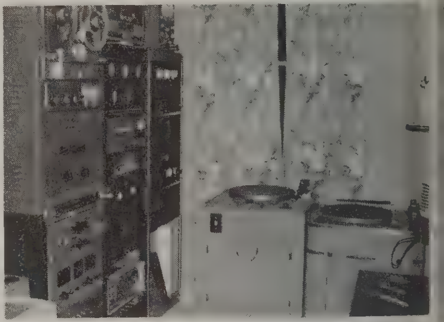


Figure 2. Here is a general view o the rack and turntable area of th control room. The left rack con tains two tape recorders, tape re lay controls, time clock, voice operated relay, and a monitor sys tem for the upper recorder. Th center rack contains AM-FM-SC receivers, monitor speakers, a jac strip, FM antenna roto crontro and system hour meter. The Righ rack is the carrier current trans mitter, modulation monitor an control equipment.

Additional lines were pulled int the living room "studio" for tw mikes, a monitor speaker, an "on-ai lamp, and a remote control for th tape recorders. This is used for tap playbacks for clients, so that we ma void the technically bewildering ontrol room and seat ourselves and ur clients in comfort and still control tape recorder for playback of maerial. Also, lines were pulled to sevral other locations for loudspeakers o permit monitoring either of two ources at each of several locations. selector key and level control at ach speaker permit selection of proram level setting.

Since we do very little broadcastng in the conventional sense, the urntables were located against the vall rather than on either side of he console. Remote control of these urntables and the rack-mounted reorders is handled by a relay-push-utton-tally light system seen in the esk top in Figure 3. This is extended o the disc recorder console so that he operator can start any of the 3 ape recorders from the disc recorder y merely pre-setting 1 switch.

The racks contain the usual complement of professional audio gear vith a few exceptions. The main peech input rack (not shown) inludes the auto-level amplifier, the hain jackfield, an audio oscillator, lters and equalizers, and the telehone patch. The caption below iguer 2 covers the equipment lineup n the main racks.

ig. 3 A view of the other end of he control room. Note the General lectric console, tape storage and echnical library, and on the right, he disc recorder. The panel set into he desk top in front of the console ontains remote controls for the tape ecorders and turntables.

One rather unusual item in our acks is shown in Figure 4. We intalled a JBT elapsed time indicator calibrated in hours and tenths of an hour up to 9999.9. This item, pulled from junk equipment, is energized whenever the main rack AC is applied, and indicates the hours the system is operating. The reading is logged whenever preventative or emergency maintenance is performed, and serves as a guide to tube checks, tube life, lubrication schedules, tape head demagnetization, and so on. We haven't had it long enough to dwell on its merits at length, but we believe it will be most useful. Hour meters are often used in television stations to indicate lamplife in projectors, image orthicon tube life in cameras, and tube life in transmitters. We believe the same principle will apply to audio and broadcasting systems, particularly where older, tube-type equipment is in use.

All audio wiring was done using Belden 8437 audio wire. Control circuits were run in Belden 8208 shielded cable. We have noted a substantial reduction in hum and noise as compared to our earlier "semi-permanent" installation. RG-59 is used for antennallines to the FM and TV receivers and from the carrier-current transmitter to the line-coupling box in the basement. RG-11 is used between the roof-mounted antennas and the basement pre-amplifiers.

Several things come to mind at this point. In planning and building control facilities, spend a lot of time in advance thought about actual physical arrangement. Much time, money and inconvenience is spent and wasted in re-arranging equipment. Lines have to be re-routed, cables are usually the wrong length, rack panels don't fit, and so on. If yours is a combo or disc-jockey operation, consult your announcers before making final plans. Plan cable runs so they are as short as possible, out of sight, and easy to get to if changes need to be made later. Avoid proximity to AC cables and RF lines.

If it is necessary to move control room facilities, try to move racks intact, if the move is only a short distance. The less wiring that is disturbed, the less chance of needing to trouble-shoot later. We moved our entire control room in the back of a station wagon, and did not dismount anything from the racks. We planned to run all new wiring, so we didn't take pains in disconnecting. However, all leads were tagged so we could identify them later. String tags are useful for this.

Moving radio stations is for the birds. If it must be done, use some forethought and save a lot of time and work later. We Know!!!

(Please note: Complete audio system may be obtained by sending for them on station letterhead to CR.)

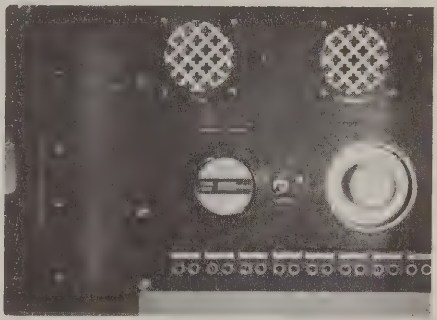


Fig. 4 The system hour meter. This device is activated by the rack power switch and indicates the hours the system is in operation. By noting the reading when tape heads are cleaned and demagnetized, tubes checked, and so-on, and logging this reading, accurate maintenance records can be kept and trouble off-set by maintenance performed regularly.

I'm going to the
IBS East Coast Convention.

ACROSS THE UNITED STATES WITH COLLEGE RADIO

ACTIVITY IS KEYNOTE AT KASC—NORTHERN ARIZONA UNIVERSITY

KASC had its origins in the Student Union Building on the Northern Arizona University campus in the spring of 1962. Its facilities boasted a plush second-floor, carpeted office furnished with several mossy-green couches and huge picture windows with pull drapes. The control room contained only the bare minimum of equipment.

As every student originated and operated station, KASC had its growing pains. The office was ideal although there was much room for improvement in its technical equipment. The limited radiations devices code which controlled KASC broadcasting limited the audience to the few dormitories which were supplied with transmitters.

Although the founders of the campus radio station were very enthusiastic about initiating a campus radio station, the lack of capital was one of the main problems which the staff faced. The college administration and the college student body association had very little sympathy for a station which was sending its beams to only a few dormitories. No funds were in the offing from the student body treasury. Few advertisers saw fit to advertise to the limited audience of KASC. Consequently, there was no money to buy equipment for the station.

Sympathetic town stations who foresaw the need for trained college announcers donated some of their second-hand equipment. Old transmitters were rebuilt and installed in dormitories by the technical staff of the station, yet there were still very few dormitories hooked up.

Local stations donated many of their old albums and out-dated 45's. Lacking funds for record subscriptions, the KASC record library was severly understocked. A limited number of albums and '45's were mailed to KASC from record distributors. Even so, the Top 40 show was almost six months out-of-date.

In 1964 a change in the mass communications program at Northern Arizona University took place. All of the communications media were moved to a central location in the Journalism Building including the newspaper, yearbook and radio station offices. Gone was the plush office overlooking the front lawn of the student union. However, new facilities were built for the station including a new control room and business office. But still, the station had no working capital. Most of the equipment in the new studios was the same second-hand material which had been used in the old station and transferred to the new offices.

The fall of 1965 brought with it an enthusiastic corp of workers with new ideas, new hopes and a knack for improvising. A new goal—FM Radio—was introduced by the incoming station manager, Raymond Cindrich. Members of the Radio Workshop class pooled their talents in a cooperative effort to achieve FM. People who had worked on the station before said it couldn't be done, but today, FM Radio has been given the "green light" by the administration. A presentation of facts about FM Radio was made to the administration early in the school year by Cindrich and Don Wilson, station adviser. They explained the role a college FM station would fulfill in harmonizing relations between the college and the community. The administration's support was most enthusiastic. KASC even received a $1000 grant from a faculty member on the condition that his name remain anonymous. The grant was to be used only for technical improvements which are currently under way

Unlike most student operated services on the campus, the radio station has never received a subsidy from the Associated Students funds. Overhead expenses such as line charges membership dues, telephone bills and salaries remained unpaid. By the fal of 1965, KASC was several hundred dollars in the red. All purchases in the beginning of the year were made on credit. To make money to pay past-due bills, accuring bills and back salaries of station personnel, a cor of salesmen were enlisted to scou the town for advertising. The salesmen were all professionals, all members of Pi Sigma Epsilon, Nationa Professional Marketing and Sale Fraternity. Sales were hampered however, by the small listening audience. They went quite well, considering the limitations. Salesmen wer given added incentive with a guarantee of 15% commission on account sold rather than the previous commission of 10%.

As money slowly began to com from advertising, transmitters wer either rebuilt or new ones were purchased and installed in the outlyin dormitories on the south end of th NAU campus. The record library received a shot in the arm as severa different record subscriptions wer made. The $1000 grant aided i speeding the purchases of new rela equipment so that in less than thre months, the listening audience of th station was more than doubled. Before the end of the year, the entir campus will be blanketed. And nex year . . . FM.

KASC is presently operated by th following staff members: Statio Advisor, Don W. Wilson; Statio Manager, Raymond Cindrich; Bus ness Manager, Ulla Saarela; New

(continued on page 22)

acific Region

(continued from page 15)

ess likely to grant permission for

4. The present 10 watt limit ermits many more stations to be stablished on a given frequency ecause each station covers a smallr area. This is in keeping with a najor function of the low power tation which is to train people or future work in the radio inustry.

5. If the FCC insists on making ie proposed change, a great many f the present 10-watt stations will e forced to cease operating. In eturn, it is suggested that the CC establish a licensed form of ow power radiation broadcasting, milar to what stations are now perating on an unlicensed basis nder Part 15. It is suggested that facilitate this the FCC set aside ertain channels for such a class AM broadcasting. (For instance, n the East Coast 640 kHz could e set aside as this is the frequency clear channel station KFI, Los ngeles. As we know, many East oast stations presently use this equency. On the West Coast 880 Hz is for a similar channel. No oubt other such channels can be ound for other parts of the couny.)

As voiced by some of the broadsters that attended, "This was a ell-planned conference and well orth the time. We're looking forard to the IBS National Conntion this Spring!"

ctured above are the recent electl directors of IBS Southern gion. They are Harry Silvers, gional Director and Larry Weisclat, Assistant Regional Director. he Directors were elected by mbers of the region during their ll Conference.

Advanced, Solid State

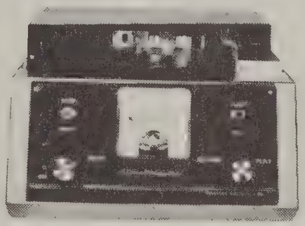
Spotmaster

Super B Series

MEETS OR EXCEEDS ALL NAB SPECIFICATIONS AND REQUIREMENTS

And Here's the New Economy King

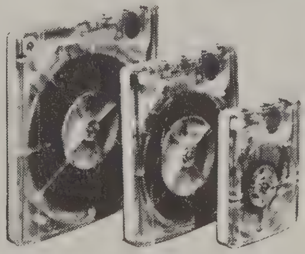
COMPACT 400-A



Don't let their low price fool you. New, solid state SPOTMASTER Compact 400's are second only to the Super B series in performance and features. Available in both playback and record-playback versions, these Compact models share the traditional SPOTMASTER emphasis on rugged dependability.

Top Quality

Tape Cartridges



Superior SPOTMASTER tape cartridges are available in standard timings from 20 seconds to 31 minutes, with special lengths loaded on request. In addition, Broadcast Electronics offers a complete selection of blank cartridges, cartridges for delayed programming and heavy duty lubricated bulk tape. Prices are modest, with no minimum order required.

Introducing the Super B, today's truly superior cartridge tape equipment.

New Super B series has models to match every programming need—record-playback and playback-only, compact and rack-mount. Completely solid state, handsome Super B equipment features functional new styling and ease of operation, modular design, choice of 1, 2 or 3 automatic electronic cueing tones, separate record and play heads. A-B monitoring, biased cue recording, triple zener controlled power supply, transformer output . . . all adding up to pushbutton broadcasting at its finest.

Super B specs and performance equal or exceed NAB standards. Our ironclad one-year guarantee shows you how much *we* think of these great new machines.

Write, wire or call for complete details on these and other cartridge tape units (stereo, too) and accessories . . . from industry's largest, most comprehensive line, already serving more than 1,500 stations on six continents.

BROADCAST ELECTRONICS, INC.

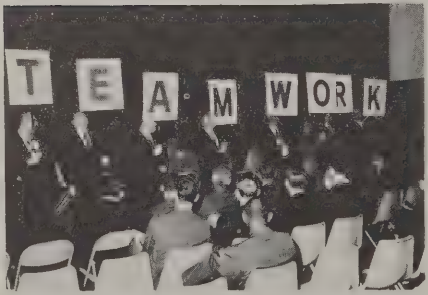
8800 Brookville Rd., Silver Spring, Md.
Area Code 301 • JU 8-4983

Southern Regional Highlights:

Pictured above is the Registration line at the IBS-Southern Convention. The convention for the most part was held in the Alumni Hall of Emory University, Atlanta.

Mr. Duncan Whitesides, one of the many broadcasting professors at the Convention is pictured here in his session. Mr. Whitesides is one of the country's best enthusiasts of College Radio.

Left to Right: At the IBS Southern Conference—Manager Kerry Buckley, WVSN, FM, and Gary Walker of Stanford University takl with former IBS-Southern Director Allen Steele (far left) as Steve Iscoe, WPLO-FM Manager of Georgia State College (far right) looks on.



At the recent IBS-Southern Conference, the emphasis of Teamwork and its importance was illustrated by WSB Radio. They presented a delightful and informative look into professional radio.

Across the United States

(continued from page 18)

Director, Tom Schelstrate; Music Di rector, Ernie Kestembaum; Progran Director, Bill Moffitt and log secre tary, Janice Bird. Other members c the immediate staff include ar nouncers and department secretarie To date KASC is on the air five day a week from 7 a.m. to 11:30 p.n Weekend marathon programs for th spring semester are currently bein planned.

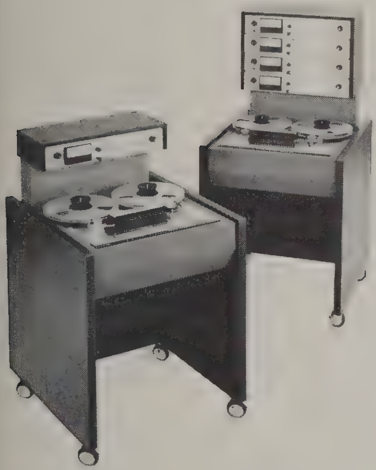
The progress of KASC on th Northern Arizona University campu is merely beginning. Many of th plans which only a year ago wer still in the blue-print stage have a ready materialized. New plans ar continually being made. The stead progression of KASC from a ver limited audience to over half of th campus has taken a lot of time. Fu ture progression is dependent on cor tinued enthusiasm and support b the administration of the college an by the personnel on the station. Sti serving as a guiding beacon for a work done at KASC is the goal FM Radio.

Nine LPB carrier current trans mitters are being used to pro- vide induction technique communications between control stations and the earthmoving machines and vehicles on a tunnel construction project in Colorado.

If you're hard on your broadcasting equipment you may be interested in the ability of LPB's transmitters to withstar punishment. If you're not, yo won't.

LOW POWER BROADCAST EQUIPMENT CO.
248 Swedesford Road, Malvern, Penna. 19355

BROADCAST EQUIPMENT



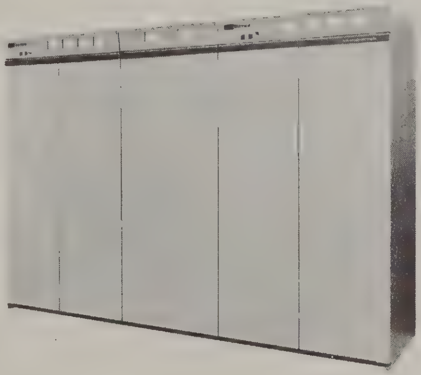
A new generation of Ampex proessional audio recorder/reproducers ias been placed on the market by mpex Corp.

The new Ampex AG-440 Series ecorders for radio stations and proessional recording uses in industry, ducation and government, is an adanced version of the company's 350 nd 351 Series. More than 20,000 of hese series recorders have been laced in service throughout the vorld since their introduction in 953, and they are generally acepted as the standard for radio roadcast recording.

The new series introduces to the nedium price range many engineerng features previously found only in igher cost mastering recorders. New eatures include plug-in solid state nodular electronics, plug-in head asemblies, three-way editing capability nd scrape flutter idlers. Electronic ircuitry is designed so that modules lug into the front of the chassis for asy accessibility.

Quarter-inch head assemblies are tandard on all one-channel and twohannel recorders. Half-inch head asemblies are standard on all threehannel and four channel recorders. n operator can select ½-inch or ¼-ch operation on the AG-440 or hange track configuration in minutes by removing three screws and inserting a new assembly.

A single channel full track AG-440 can easily be built up to a four channel, four track recorder by adding 3½-inch electronic panels to the overbridge and the proper head assembly without making the existing components obsolete. A single channel console model is 40 inches high, a four channel version is 50½ inches high.



Gates Radio Company, Quincy, Illinois announces the availability of the FM-40G, a 40,000 watt FM transmitter.

Designed for the maximum power Class C FM station, utilizing both horizontal and vertical polarization, the FM-40G consists of two 20 KW FM transmitters operating into a combiner. Single or dual exciters with automatic switches are available as accessories. The unit is contained in three cabinets plus two power supplies which utilize solid state rectifiers. The transmitter is fully FCC type approved.

National Conventions

APRIL 14-15, 1967
Berkely, California
New York, New York

Technical Radio Broadcasting & Equipment Marketing Positions

Career opportunities for college graduates, either BSEE or Business major, interested in combining technical radio broadcasting interest with equipment marketing.

Positions are in headquarters sales office in dynamic Midwest community.

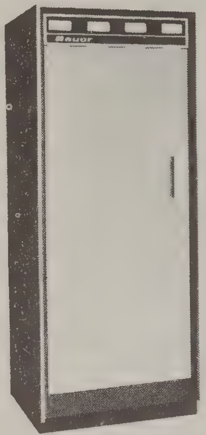
In addition to familiarity with broadcasting equipment, applicant should have drive, initiative, and be sales and marketing minded.

Wonderful long-range opportunity with this expanding growth-minded company.

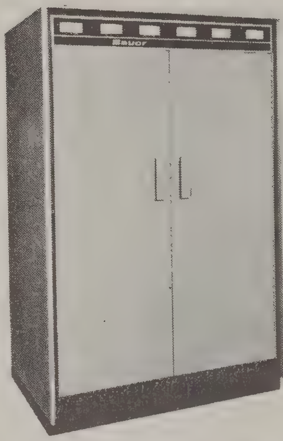
Please send resume to:

PERSONNEL DEPARTMENT
GATES RADIO COMPANY
QUINCY, ILLINOIS

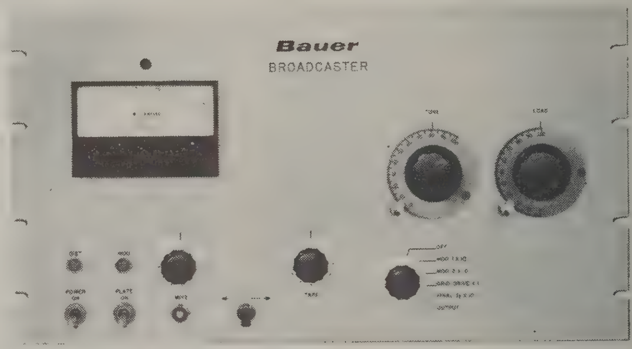
BAUER TRANSMITTERS & AUDIO EQUIPMENT



1 KW AM & FM TRANSMITTERS



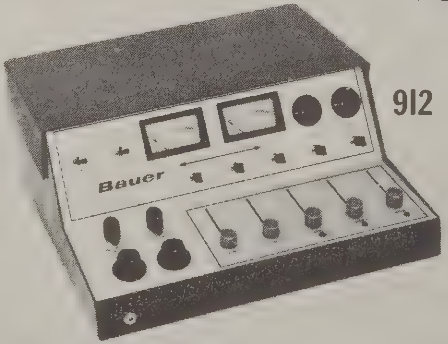
3 KW to 20 KW AM & FM TRANSMITTERS



Model 720 - 50 WATT CARRIER CURRENT TRANSMITTER (19″ wide)

Bauer transmitters are designed to increase your performance and decrease your maintenance with all solid state rectifiers and fool-proof circuit protection with tally light overload relay systems, Automatic Power Control, the latest design in ceramic tubes, Remote Control Provisions, PLUS the lowest tube investment in the industry. Performance proven in 23 countries throughout the world.

AUDIO CONSOLES



912

910

912 Series — Provides five mixers, speaker muting and cue facilities. All silicon solid state. Available in Kit Form. 19″ x 18″ x 9″. Monaural or stereo models available.

910 Series — Provides 8 mixers, talk back, speaker muting and cue facilities. All silicon solid state. Available in Kit Form. 28″ x 18″ x 9″. Dual Channel or stereo models.

Look to Bauer for all your Broadcasting equipment: TRANSMITTERS, AUDIO CONSOLES, TRANSMITTER LOGGERS, AUDIO COMPONENTS, PHASING & COUPLING EQUIPMENT and REMOTE CONTROL SYSTEMS. Prices and delivery on request.

Bauer ELECTRONICS CORPORATION

1663 Industrial Road, San Carlos, California Area Code 415 591-9466

SCA" Music

(continued from page 10)

7KHz is fed into the mixer-oscil- tor tube V1. Here a locally gen- ated signal is beat with the incom- g signal to produce an IF of 55KHz. This is coupled to the 1st niter stage, V2, and then to V3A, e second limiter. A 455KHz dis- iminator coil used with diodes D1 d D2 demodulate the audio and de- ver it to output jack J2. Squelch be V3B operates a small relay to ort the audio output under no- gnal conditions, to prevent FM hiss d cross-talk from the main carrier be heard. The power supply is a mple half-wave type delivering out 100VDC B-plus.

Most parts will be found in the ation's junk-box. The builder may ive to purchase the discriminator n and relay (a Sigma sensitive re- y). The diodes can be nearly any ailable type, but should both be the same type. Be sure to use iminator output, and metering of niter grid and discriminator bal- nce. Below the tuner is the SCA nit, mounted on the rear of the eter panel. The Left meter is the ain Carrier signal level, metered om the limiter grid of the FM ner. The right meter is Sub-Carrier gnal level, metered from TP-1 on e sub-carrier adapter. Between ese is a small zero-center meter for ain-carrier balance. A red pilot is the bottom center: This is on hen the sub-carrier is in operation, d is controlled by the NC contact the squelch relay. A 6-position ck strip immediately above the M tuner cointains plate-to-line ansformers, and is used to select ceiver outputs to two remote lines the console. The SCA adapter out- it is high impedonce, and is quite gh a level.

It is suggested that the station con- der some type of automatic ID in- rter. We have not developed one as t, but plan to work on it soon. ost background music services pro- am a pause of one-to several inutes duration every half-hour or . This is supposed to relieve listener tigue. Perhaps one of these pauses, ith an audio-sensing relay system, uld be used to key in a cartridge- ped ID.

This, then, is the story of the SCA lapter. In closing, several points should be considered:

1. Be certain your main FM receiving system is in good condition and working well. SCA cannot be used in weak or fringe areas to any satisfaction.
2. Construct and align the unit carefully. BE SURE to use or add a detector output to the tuner. Align for least distortion and minimum crosstalk from the main carrier program.
3. Before using, obtain permission from the FM station you plan to monitor to rebroadcast their music. Carrier current stations should have no problem—radiated-signal stations may not be able to get permission. If the station operates its own music service, it will most likely be easier to work with than one carrying someone else's program, like Muzak. But to be certain, obtain permission. (This should also hold for any other re-broadcast activities).
4. Remember, the quality of audio from the adapter will not be FM broadcast quality. Why? In most cases the program material originates on 3¾ ips tapes, which have the response tailored for background music purposes. Hi-Fi is not wanted, or needed, in a place of business. So you should not expect a response much beyond 100-5000 hertz. However, remember you are also providing a "background music" service during the hours you are programming SCA, and in most cases, the available response will exceed that of the usual AM radio anyway.

The writer will be glad to answer any questions dealing with SCA or the construction of this adapter.

Classifieds

DISC RECORDING SERVICES FOR THE COLLEGE BROADCASTER

Tape cartridges are fine, but for those broadcasters unable to afford them, or who prefer not to use them, we are offering our new disc recording services. Facilities have recently been installed to enable us to produce high quality tape to disc transfers, either microgroove or transcription 3 mil 33.3 rpm pitches. (78's are available also.)

Your spots, themes, or other material may be sent to us on tape. We can accommodate any speed (3/3-4 to 15 ips). either full or half-track and on reels up to and including 10½". Your tapes will be reproduced on our Magnecord and Berlant tape machines, and re-recorded to high-quality acetate discs on our Rek-O-Kut disc recorder. We can handle up to and including 13¼" master discs, and we will equalize to NAB standards. Special curves available on request.

The prices listed below will serve for most small-quantity orders. On quantity prices, no discrimination is made if you wsh to have different material transferred to each disc. In other words, the price per disc shown for 5 discs will hold, regardless if 5 copies are needed of the same tape, or if you ship 5 tapes to be transferred one to each disc. If you ship material for one side only, we will transfer a duplicate of your tape to the second side at no ertra cost.

As you can see, we have made every effort to assist the college station with its limited budget, to receive the discs most needed. We hope this service wll be useful to you.

Tape editing services are also available. If you like, we will retain your tape master in our files for future tape-to-disc or tape-to-tape transfer. Just write, wire, or call us and we will make the needed transfer and send it out immediately.

The following are special IBS rates for acetate discs:

33.3 RPM Standard (3 mil) groove	1-5	6 plus
10" 3.5 minutes per side	3.50	3.00
12" 8.0 minutes per side	4.50	4.00
33.3 RPM Microgroove (1 mil)		
10" 15 minutes per side	5.00	4.00
12" 22 minutes per side	8.00	6.50

Above includes label and sleeve, and postage when sent special rate sound recordings. Faster shipping will necessitate invoicing for shipping charges. Standard groove is 108 lpi, microgroove is 240 lpi.

James D. Jones
and Associates
BOX 142
Dayton, Indiana 47941
AC 317 - 447-4616

Equipment to Sell

Three Mark III 9 watt thansmitters made by Low Broadcast Equipment Co., factory modified for 50 OHM coax output, available soon. Origional cost $135.00 each. Best offer gets. Contact Chief Engineer, WSUA RADIO, 750 State Street, Albany, N. Y. 12203

Two Decades of Campus Radio

(Continued from page 8)

requires some of the most careful programming of all, for it should be done by a real buff. He will know its history and genres, its composers and interpreters from the Dixieland era through Stan Kenton down to. . . (please name him; I can't). Probably I should be embarrassed that classical music has never been too popular on our campus station. But let the truth come out. Last year, of course, the student staff on its own programmed a "Classical Music Week." I fear, however, it was simply a tour-de-force like the fifty-six hour marathon they called the "Winning Week End." Better this, I suppose than another losing or even lost week end. As the university music department expands with the present upswing in the fine arts program on the campus, I hope we can find some embyro Leonard Bernstein to explain classical music in cool terms. For I believe students when they say, "It's not that we don't like classical music; it's just that we don't understand it." With an expanded music department, we can also hope for more live music on our campus station. Now almost extinct on the general radio scene, in the U.S. (but not in many other countries), live music should scarcely be allowed to go the way of the passenger pigeon.

Of live sports, we have just enough to give our students play-by-play experience with basketball, our only major sport. If we are smug because our best campus sportscasters are regularly seconds ahead of professionals covering the same game, we can perhaps be forgiven. I wish we could even come close to professional performance in our daily sportscasts, however. At present these are largely rip-and-read. Unfortunately, the same is true of our daily newscasts. But occasionally in the course of two decades, we have also had near-professional performance in both news and sports, even praise-worthy experiment.

Of religion, we have only a token, despite the fact that we are a church-related university. During the Vatican Council, however, we had some very lively interviews and discussions. This may reflect the fact that our campus station is more journalism than speech oriented. But the seismic disturbances on the present ecumenical news fronts have not sparked the special types of news programming ignited by the Council. Neither has the new liturgy, although we have guitar and banjo masses in the university church, entirely voluntary services, originated and sutained by student action. Where does "Sean's Soul Show," a current program of contemporary music, fit in? I am not sure. But it does represent honest searching.

Has our station all of the equipment we wish it had? Of course not. But we have come a long way from our primitive beginnings. I still hold to the principle: it's not the equipment but what you do with it that counts. Our first student chief engineer, who put something together that would work, mostly from World War II surplus and odd bits of wire, has kept up his interest these many years. Now high in seniority on the engineering staff of a local television station and the father of six children, he has been our consulting engineer throughout. For more than a decade, the title was a euphemism; but now that we have a full-time technician, it means what it says. Gerald Edmonds, the consulting engineer, has meant to KOCU what David Borst has meant to IBS. On the unselfish devotion of such people campus radio stations are built and sustained.

George Abraham is another perso to whom all campus radio station are indebted. Without his pionee vision and continuous interest fe such stations would be on the ai Creighton University rightly cherishe his signature on its original IBS certificate dated November 1, 1947 Whatever became of Sonia-Jan Brown, the other signatory, I do no know. Perhaps she can be taken a a symbol of the many coeds wh have contributed to the developmen of campus radio. On KOCU, coed have at one time or other held executive posts from station manager o down. Without them, we would b hard put to it to have routine detai work done. An interesting alumna c the KOCU staff is a young lady i traffic and sales at a local televisio station who volunteers to do the remote engineering for our basketba games from the arena of the Civi Auditorium.

In this rambling paper I have attempted to high light two decades c campus radio at Creighton University. How typical our operation ha been, I cannot say. If Marshall Mc Luhan is right that "the medium i the message," KOCU continues t bring good tidings to our campu Borrowing Fordham's Father Joh Culkin's addendum to McLuhan tha "the message is also the message I would say that the good tidings radio station brings to any campu are that truth can be disseminated i ways other than by the printed pag

Change of Address

If you plan to change your address in the near future, please enter your new address below, and mail this form, along with the Mailing portion of this issue to: Circulation Manager, COLLEGE RADIO Magazine, Intercollegiate Broadcasting System, Bethlehem, Pennsylvania, 18015.

Please enter a subscription for me for at $2 per year.

…………Payment enclosed

…………Please Bill Me

…………This is an extension of a current subscription.

Name …………………………

Address …………………………

City and State …………………………

ZIP: …………………

Any station that wishes extra copies of the COLLEGE RADIO ANNUAL issue may write to the Circulation Department of CR, along with a check for 50 cents for each copy. (This amount covers the printing of the issue.)

Stations may use the issue for their own publicity or for publicity for their school.

Enclose the folowing form with your order:

…………Station …………Copies

Name …………………………

Address …………………………

City and State …………………………

ZIP: …………………

What Else Did Lee oevinger Say In Atlantic ity?

HE ANSWER (AND A LOT F OTHERS) TO BE FOUND N THE JOURNAL OF BROADASTING.

Television is the “literature of the literate, the culture of the lowbrow, ne wealth of the poor, the privilege f the underprivileged, and the exlusive club of the excluded masses.” hat quote from FCC Commissioner ee Loevinger’s speech on “The imits of Technology in Broadcastng” at the October meeting of the lew Jersey Association of Broadasters has attracted attention from ondon to Los Angeles, and from *elevision* magazine to *TV Guide*. It rompted an attack at the NAEB onvention as “the most incredible iece of arrogance . . . the most unelievable piece of snobbery . . . hat could be entertained from a high chool freshman,” and brought forth remonstration from FCC Commisoner Cox that his colleague’s “comnents seem to me to unreasonably owngrade radio & TV—and their udiences . . .”

Commissioner Loevinger, a member of the FCC since 1963, a former ssociate Justice of the Minnesota upreme Court and Assistant U.S. Atrney General in charge of the Antiust Division of the Department of ustice, is used to controversy. Hower, as a legal scholar (two of his nany articles previously have been ublished in the *Journal of Broadasting*—“The Role of Law in Broadasting,” and “Broadcasting and Regious Liberty”) his writings are lways worth reading. “The Limits of echnology in Broadcasting,” pubshed in an expanded form in the *ournal of Broadcasting,* is much nore than a “description” of teleision programming. It is also a easoned analysis of the limits that echnology places on the growth, deelopment, and future efects of broadasting.

The *Journal of Broadcasting* also ontains an important article on adio Luxembourg” by Walter B. mery. The author of *Broadcasting nd Government* adds to our knowledge of one of the oldest and most successful commercial broadcasting enterprises outside of the United States. Dr. Emery professor of television and radio at Michigan State University, spent a year in Europe gathering data on Radio Luxembourg and many other European broadcasting systems for publication in a forthcoming book Dr. Emery, an attorney and former member of the FCC staff, has served as Editor of the *NAEB Journal* and as departmental editor of the “Law of Broadcasting” section of the *Journal of Broadcasting.*

Professors Don C. Smith and Kenneth Harwood, of the Department of Telecommunications in the University of Southern California, have further analyzed data from the monumental APBE-NAB “employment survey” of several years ago to provide the definitive statistical study of the “Women in Broadcasting.”

Dr. Ross Snyder, of the Chicago Theological Seminary, originally delivered his stimulating paper on broadcasters and broadcasting, “Architects of Contemporary Man’s Consciousness,” at the Annual Convention of the Association for Professional Broadcasting Education in Chicago last spring.

Professor Paul H. Wagner, of the School of Journalism in Ohio University, analyzed a number of statistical indices drawn from FCC financial reports and census data to illustrate the “Changing Growth Patterns in Broadcasting” over the past three decades. He makes use of station sales, revenues, returns on investment, increases in number of AM, FM, and TV stations, etc., in relation to gross national product and other economic indices.

The issue also contains a bibliography on “Television in Agriculture, 1946-1965,” by Bruce Crouch of the Australian National University; some book reviews; and a title and author index to Volume X (1966) of the *Journal of Broadcasting.*

The *Journal of Broadcasting* is a scholarly quarterly published at the University of Southern California (Los Angeles, 90007), by the Association for Professional Broadcasting Education, an organization founded to establish and maintain continuing relationships between commercial broadcasters and college or university departments teaching professional broadcasting, for their mutual benefit. The membership of the APBE includes 127 colleges or universities, and the National Association of Broadcasters.

Judges Selected for Intercollegiate Music Festival

(Continued from page 4)

special arrangements are used by such artists as Gerry Mulligan, Stan Getz, the Modern Jazz Quartet, Bill Evans, Dizzy Gillespie, Benny Goodman and Barbara Streisand.

Nelson’s compositions and arrangements have put him right near the top in his business. Whether working with his own band or scoring for movies and television, his sounds have won favor.

Father O’Connor, sometimes called the “jazz priest,” has an impressive list of musical accomplishments. His easy-going narration has put him on stage as the Master of Ceremonies for top music events like the Newport Festival, and his weekly television show in New York brings entertaining guests and chatter to viewers.

Before assuming his present duties as the Administrator of the Berklee School of Music in Boston, Share gained extensive professional experience as an arranger and composer. He has served as a special consultant to the Music Committee of the President’s People-to-People Program and to the Music Division of the U.S. Information Agency.

The Intercollegiate Music Festival judges, in addition to awarding the top trophies to collegiate groups, will select individuals worthy of recognition for outstanding achievement. Individuals will receive scholarships.

The Festival is a non-profit civic event, sponsored by Sero Shirt Company. Winners of the Villanova, Cerritos College, Midwest College, Little Rock, Intermountain and Mobile Jazz Festivals will compete for national honors in Miami Beach.

The national finals will be held in the 3,000 seat municipal auditorium.

Suggestions and questions for Member Stations

CR would like to pass these questions on to our member stations, especially the new directors that may have just taken over a station, and would like to recommend that station personnel ask them around the station to see if they apply to their station and individual positions. Do these apply to you and your station??

—Have I written a thank you letter to the record distributors lately?

—Should we program 24 hours with an FM set up?

—I wonder if we could start a station at that other college?

—Would the cafeteria let me pipe the station into the speaker at meals?

—I wonder if visiting industry would buy college job placement advertising?

—Could we use pictures on our posters?

—Could I extend my broadcast day with a timer and tape recorder?

—Does the Army have extra field wire to extend our coverage?

—Could we sell our old records for money, to students or to a junk dealer?

—Would the local printer trade program guides for advertising?

—Have we done a series on the fraternities or sororities lately?

—Should we rebroadcast the Sunday Professional football games?

—Would we get more money from the school and advertisers if we covered the whole campus?

—Do the students have FM sets?

—Would the area stations hire some of our better personnel?

—Are we training our engineers for FCC qualifying tests?

—I wonder what's in the IBS Master Handbook?

—Should we use the IBS job placement service?

—Have we ever taken the tapes of advertisements downtown for the merchants to hear?

KCBL-FM STAFF — Members of the staff at the new KCBL-F at Colorado State College are (left to right), Jo Anne Schneider, traff engineer; Frank Jamison, general manager; Mike Hall, program directo and Estel Haning, engineer. (CSC photo by Bob Waters).

Colorado State Begins Broadcasting on New FM Facilit

Colorado State College in Greeley went on the air with its new FM station, KCBL-FM, on January 8 at 4 p.m.

Established and licensed by the student body at the college, the station will operate on a frequency of 91.3 megacycles with coverage extending initially to about 15 miles. The studios, transmitter and tower are all located on campus.

KCBL-FM will be on the air seven days a week from 4 p.m. to midnite. Frank Jamison, director of radio and television for the college, is general manager of the station.

In addition to Jamison, the regular staff includes Mike Hall, program director; Estel Haning, engineer; and Jo Anne Schneider, traffic manager.

As fast as students can be trained to operate the facilities, they will be scheduled into the regular operation of the station. Jamison predicts that as many as 25 or 30 students will eventually be involved in the operations.

In addition to radio broadcasting, the studios will be used for other high quality recording purposes. Classroom materials can be recorded as well as speeches, concerts, drama, etc.

The studios are already being used to feed daily information programs to local commercial stations.

Jamison stated that a definite pa tern will be established in progran ming.

Music will be aired from 4 to p.m. daily starting with up-temp selections moving into dinner musi All music for this portion of th broadcast day is being selected an programmed by the IBM Comput at the college.

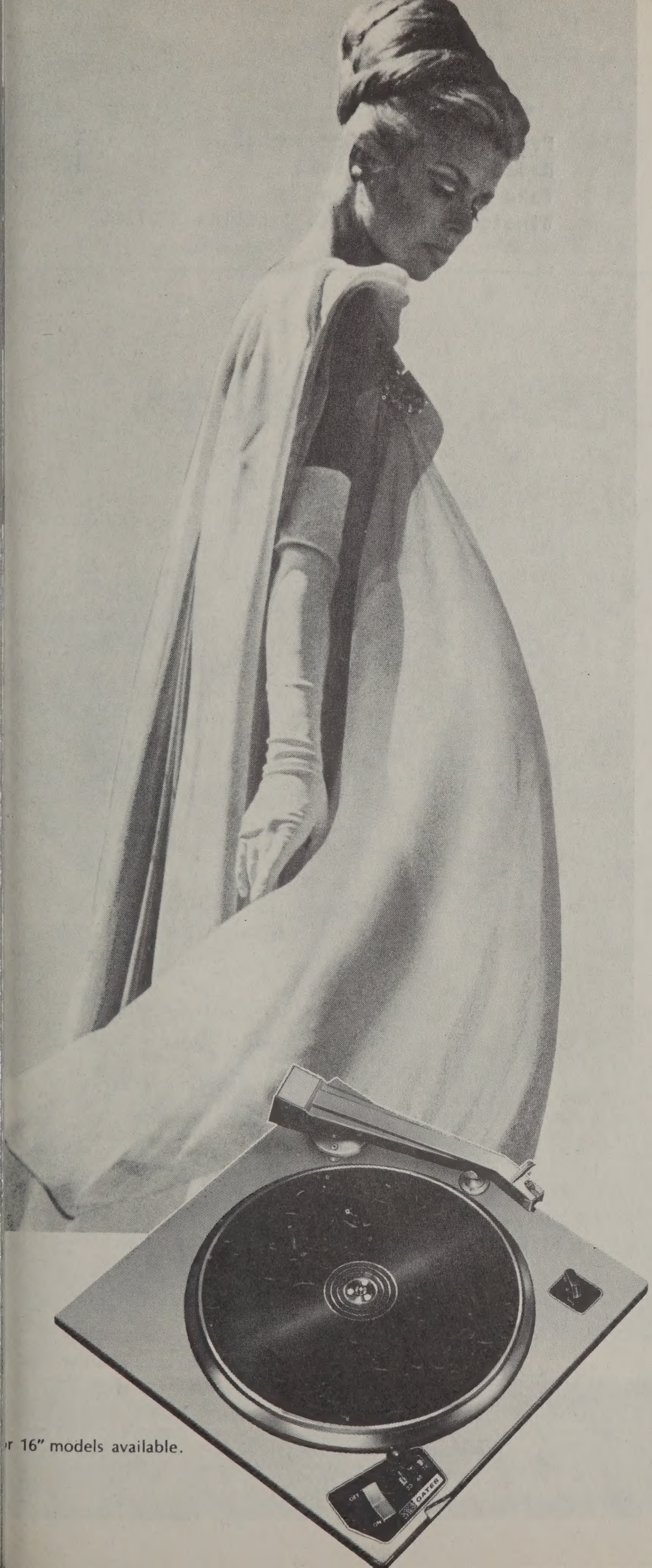
The programs aired between 7 an 10 p.m. will include NER networ programs, programs from nation and international sources such as th BBC, and local interest progran such as lectures, debates, drama, co certs, etc.

From 10 to 12 p.m. daily a cla sical concert will be aired Sunda through Friday. On Saturday nig beginning at 9:30, a complete ope will be broadcast.

One unique aspect of the station the computer programming. As fe as a half dozen stations in the worl are using computers to program the music.

The computer selects specifi music, timed out for specific tin periods, and operators need only pl the selections indicated.

The station hopes to start printir monthly program logs by February



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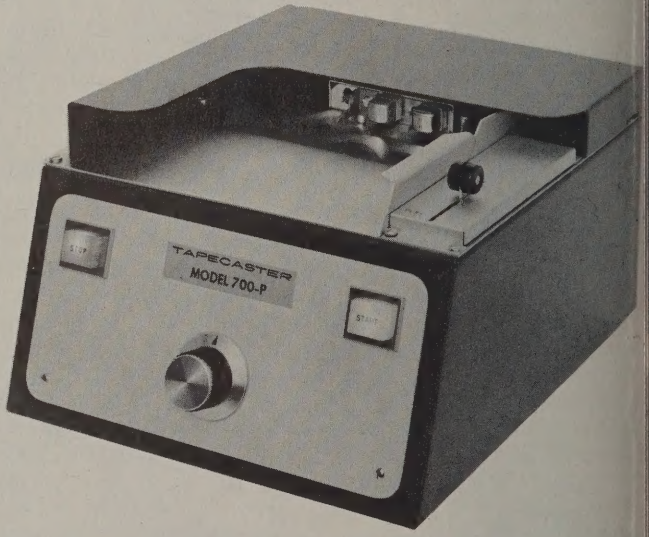

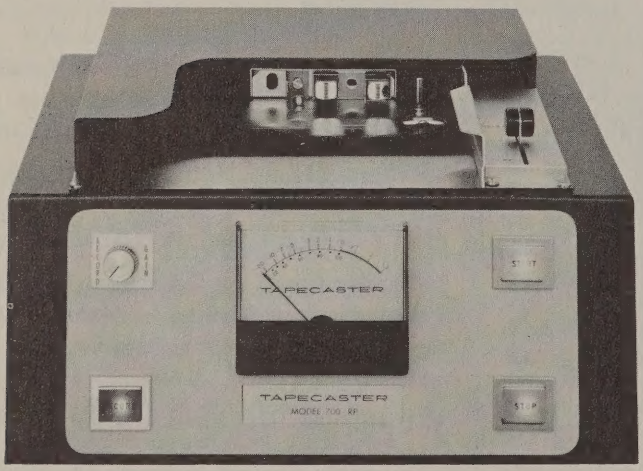

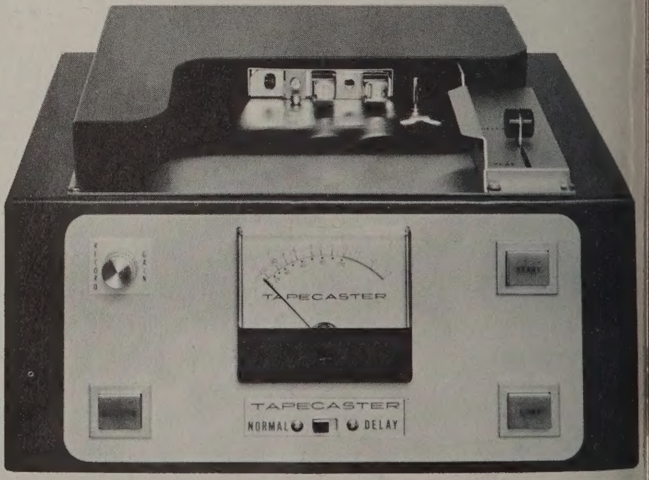

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